IN THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in the application. An identifier indicating the status of each claim is provided.

Listing of Claims

1. (Previously Presented) A data multiplexer for performing time division multiplexing of a plurality of bit streams, said data multiplexer comprising:

an extracting means for extracting access unit information necessary for multiplexing processing from each of said plurality of bit streams;

a first calculating means for calculating a time division multiplexing cycle for each of said plurality of bit streams, such that a separator separates multiplexed data by a specified method on the basis of said information extracted by said extracting means,

wherein the first calculating means calculates the time division multiplexing cycle irrespective of the transport rate of said plurality of bit streams,

a multiplexing means for performing time division multiplexing of said plurality of bit streams on the basis of a result calculated by said first calculating means; and

a second calculating means for calculating a data occupancy rate of a virtual data buffer of said separator,

wherein said multiplexing means determines an order in which said plurality of bit streams are multiplexed on the basis of the data occupancy rate of said virtual data buffer calculated by said second calculating means.

2. (Cancelled)

3. (Previously Presented) A data multiplexing method for a data multiplexer performing time division multiplexing of a plurality of bit streams, said method comprising the steps of:

extracting access unit information necessary for multiplexing processing from each of said plurality of bit streams;

calculating a time division multiplexing cycle for each of said plurality of bit streams, such that a separator separates multiplexed data by a specified method on the basis of said information extracted by processing at said extracting step,

wherein the calculating step calculates the time division multiplexing cycle irrespective of the transport rate of said plurality of bit streams,

performing time division multiplexing of said plurality of bit streams on the basis of a result calculated by processing at said calculating step; and

a second calculating step for calculating a data occupancy rate of a virtual data buffer of said separator,

wherein said multiplexing determines an order in which said plurality of bit streams are multiplexed on the basis of the data occupancy rate of said virtual data buffer calculated by the second calculating step.

4. (Previously Presented) A program for a data multiplexer performing time division multiplexing of a bit stream, which is recorded on a recording medium readable by a computer, said program comprising the steps of:

extracting access unit information necessary for multiplexing processing from each of said plurality of bit streams;

calculating a time division multiplexing cycle for each of said plurality of bit streams, such that a separator separates multiplexed data by a specified method on the basis of said information extracted by processing at said extracting step,

wherein the calculating step calculates the time division multiplexing cycle irrespective of the transport rate of said plurality of bit streams,

performing time division multiplexing of said plurality of bit streams on the basis of a result calculated by processing at said calculating step; and

a second calculating step for calculating a data occupancy rate of a virtual data buffer of said separator,

wherein said multiplexing determines an order in which said plurality of bit streams are multiplexed on the basis of the data occupancy rate of said virtual data buffer calculated by the second calculating step.

5. (Previously Presented) The data multiplexer as claimed in claim 1, wherein

a bit stream is a video stream.

6. (Previously Presented) The data multiplexer as claimed in claim 1, wherein

a bit stream is an audio stream.

7. (Previously Presented) The data multiplexer as claimed in claim 1, wherein

a bit stream is a system data stream.

8. (Previously Presented) The data multiplexer as claimed in claim 1, wherein

said specified method is a leak method that is used to transfer said plurality of bit streams between buffers.

9. (Previously Presented) The data multiplexer as claimed in claim 1, wherein

said specified method is a vbv-delay method that is used to transfer said plurality of bit streams between buffers.

10. (Previously Presented) The data multiplexer as claimed in claim 1, further comprising:

a multiplexing scheduler means for generating schedule information by using said access unit information.

11. (Previously Presented) The data multiplexing method as claimed in claim 3, further comprising the steps of:

generating schedule information from a multiplexing scheduler means by using said access unit information.